Amendments to the Specification:

Please replace paragraph [0023] with the following amended paragraph:

In the embodiment shown in FIG. 1, a first attachment strap or cuff 12 can be worn on the forearm of the patient and a second attachment strap or cuff 18 can be worn about the biceps arm region of the patient. In one particular embodiment, the first and second straps 12, 18, respectively, can be elastic straps and can include fasteners (not shown), for example, hook and loop type fasteners, buttons, hooks, etc., which can allow the patient or caregiver to fasten and unfasten, install and remove the first and second straps 12 ~~14~~, 18 at will to facilitate wearing and removal of the device. In other embodiments, a zipper, buckle or friction-type strap attachment could be used. In still other embodiments, one or both of the attachment straps 12, 18 may be provided from an open or closed cell foam (e.g. a neoprene sleeve) having either an external or integrated hinge (i.e. a hinge mechanism integrated on, under or within the sleeve). In the case where an attachment strap is provided as a sleeve, a sensor can be placed under the sleeve. Such a sleeve would provide the function of holding the sensor in place while also holding other elements of the device 10 onto the body.

Please replace paragraph [0038] with the following amended paragraph:

A joint position sensor 24, coupled to the hinge assembly, is adapted to sense position of the hinge assembly 14 ~~16~~ and to provide a rotation signal to processor 34. One of ordinary skill in the art will recognize that the joint position sensor 24 can be one of a variety of conventional rotation sensors and the tension sensor 16 can be one of a variety of conventional tension sensors. In the case where the orthotic device 10 does not include a hinge assembly (e.g. the person's joint itself functions as a hinge), the joint position sensor 24 can be disposed directly on the person's joint to sense or measure the position of the person's joint (or the position of limbs disposed on either side of the joint) and to provide a rotation signal to the processor 34. The joint position sensor can also be placed on the output shaft of the actuator if there is a known correlation between the movement of the actuator and joint.

Please replace paragraph [0040] with the following amended paragraph:

In operation, when the patient attempts to move a body part (e.g. when the patient attempts to move their arm as shown in FIG. 1), signals (e.g. EMG signals) generated by the patient's muscles are sensed by the sensors 32a, 32b (e.g. EMG sensors). The signals are sent to the processor 34 which controls the actuator 36. In response to the signals the actuator moves the inner portion 26a ~~28a~~ of the cable 26 ~~28~~, which moves the first strap 12 relative to the second strap 18 ~~14~~. In the embodiment shown in FIG. 1 in which the orthotic device is disposed on an elbow, this causes the patient's arm to bend about their elbow. In this way, a patient having signals having a relatively small amplitude (e.g. EMG signals having a relatively small amplitude), in the vicinity of their biceps and/or triceps muscles, can still bend their elbow in response to the small EMG signal, with the assistance of the powered orthotic device 10. This operation is able to occur even when the signals measured from the patient are of insufficient strength (or frequency) to activate the patient's biceps and/or triceps muscles to move their arm. The above-described method of operation applies, of course, to any jointed body region (e.g. wrist, legs, ankles, etc…).

Please replace paragraph [0060] with the following amended paragraph:

The actuator and drive train assembly 60 are coupled to the brace 52 being worn by the patient. The actuator and drive train assembly 60 may, for example, include the cable 26, the cable retainer 30, and the cable wheel 20 of FIG. 1. The actuator controller 58 and the actuator and drive train 60 may also include a combination of motors and force feedback control circuits. It should be appreciated that the processor 56 ~~65~~, controller 58 and actuator/drive train 60 cooperate such that the actuator/drive train 60 provides to the user an applied force in a smooth and well-controlled manner. That is, the system components are selected having operating characteristics and are coupled in a manner which allows the system to achieve the desired effect of allowing the system to assist a user to move a desired body part in a controlled manner with a relatively smooth motion. That is, the system is provided having a compliance property (i.e. a property reciprocal to stiffness) which promotes smooth motion of a body part in a user. This

effect is achieved by having the components of the system operating on various inputs to the system (as described above) until the output (which is a measure of the desired effect – e.g. smoothness of the motion or a characteristic of the actuator output signal) falls within an acceptable range of values. In one embodiment, a low backlash actuator and drivetrain (both designed in compliance), as well as compliance inherent in the system (e.g. by virtue of the coupling mechanisms used to couple moving components of the system) aid in smoothing out motions induced by the actuator. Force control, as opposed to pure position control, is also conducive to smooth motion, as compliance can be a part of the control process algorithm.

Please replace paragraph [0067] with the following amended paragraph:

It should also be appreciated that there is not necessarily a direct link between the sensors of the sensor system 54 and the actuator and drive train 60. All information can be passed through the processor 56 and controller 58. This means that the actuator 60 responds to commands from the processor 56 and controller 58 ~~56~~, which are based upon the signals from the sensor system 54, but the exact relationship (linear, non-linear, twitch control, saturation limits, etc) between the output signal provided by the actuator controller 58 (i.e. actuator command signal) and the output of the sensors (e.g. sensors 54a – 54c) is unspecified because it will vary from treatment to treatment, patient to patient, etc....

Please replace paragraph [0073] with the following amended paragraph:

Referring now to FIG. 5, an orthotic device 110 is disposed on a user 112. The device 110 is also coupled to a wheelchair 114 in which the user 112 is seated. The device includes sleeves or cuffs 114a, 114b, 114c ~~116a, 116b, 116c~~ disposed on an arm of the user 112. The cuffs 114a – 114c are coupled via connecting structures 116a, 116b and joint structures 118a, 118b. The cuffs 114a –114c, connecting structures 116a, 116b and joint structures 118a, 118b together from an exoskeleton worn by the user 112.